

REMARKS

At the outset, the Examiner is thanked for the thorough review and consideration of the pending application. The Office Action dated June 27, 2008 has been received and its contents carefully reviewed.

Claim 1 has been amended. No new matter has been added. Claims 1, 2, 4-9 and 12-28 are pending in the present application, of which claims 6, 8, 16 and 21-28 are withdrawn as the result of an earlier restriction requirement. Reexamination and reconsideration of the pending claims is respectfully requested.

In the Office Action, claims 1, 2, 4, 5, 7, 9, 11-14 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Oh et al. (U.S. Patent No. 6,130,729) in view of Liu et al. (U.S. Patent No. 6,573,965), Von Gutfeld et al. (U.S. Patent No. 6,055,035), Kishimoto et al. (U.S. Patent No. 6,515,718), Takeda et al. (U.S. Patent No. 7,224,421) and Lien (U.S. Patent No. 5,907,380); claim 15 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Oh et al. in view of Liu et al., Von Gutfeld et al. and Tanaka et al. (U.S. Patent No. 6,603,528); and claims 17-19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Oh et al. in view of Liu et al., Von Gutfeld et al. and Kim et al. (U.S. Patent No. 6,100,953).

The rejection of claims 1, 2, 4, 5, 7, 9, 11-14 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Oh et al. in view of Liu et al., Von Gutfeld et al., Kishimoto et al., Takeda et al. and Lien is respectfully traversed and reconsideration is requested.

New limitations added to claim 1 are respectively supported by Fig. 4, [0054] and [0021].

Claim 1 is allowable over the cited references in that claim 1 recites a combination of elements including, for example, "...dispensing a plurality of droplets of liquid crystal on the first substrate formed no dielectric frame so that the plurality of droplets of liquid crystal on the first substrate are spaced with each other; . . . a height difference between the first height and the second height is more than 1 μ m in order to prevent the generation of bubble in liquid crystal, the height difference between the sealant structure and dielectric frame allows the dispensed liquid crystal to be uniformly distributed and not to hinder the dispensed liquid crystal from being moved and uniformly distributed between the first substrate and the second substrate, and the second height of the sealant structure is proportional to the first height of the dielectric frame." None of the cited references, singly or in combination, teaches or suggests at least these features

of the claimed invention. Accordingly, Applicant respectfully submits that claim 1 and claims 2, 4, 5, 7, 9, 11-14 and 20, which depend therefrom, are allowable over the cited references.

In particular, claim 1 discloses a first feature of “dispensing a plurality of droplets of liquid crystal on the first substrate formed no dielectric frame so that the plurality of droplets of liquid crystal on the first substrate are spaced with each other”. However, in Von Gutfeld et al., a layer of liquid crystal is deposited using a scanning method, i.e., a nozzle is used for emitting liquid crystal material, a scanning unit for scanning the nozzle to apply a predetermined amount of liquid crystal material, preferably in a single scan, over an entirety of a surface of the first panel plate at atmospheric pressure” (col. 2, lines 56-60). And, in Liu et al., the bumps 309 to 312 and 407 to 409 (corresponding to dielectric frames) are formed on both the lower and upper substrates 301 and 401. Also, in Takeda et al., the protrusions 20A and 20B (corresponding to dielectric frames) are formed on both the lower and upper substrates 12 and 13. Therefore, if the teaching of Von Gutfeld et al., Liu et al. and Takeda et al. were combined, Von Gutfeld et al., Liu et al. and Takeda et al. fail to teach the first feature of the claim 1.

Further, the claim 1 discloses a second feature that “a height difference between the first height and the second height is more than 1 μ m in order to prevent the generation of bubble in liquid crystal, the height difference between the sealant structure and dielectric frame allows the dispensed liquid crystal to be uniformly distributed and not to hinder the dispensed liquid crystal from being moved and uniformly distributed between the first substrate and the second substrate, and the second height of the sealant structure is proportional to the first height of the dielectric frame.” However, none of Von Gutfeld et al., Liu et al. and Takeda et al. teaches that the relationship between the height of the sealant and the height of the dielectric frame facilitates movement of the liquid crystal such that the dielectric frame does not hinder the movement of the liquid crystal and the liquid crystal is uniformly distributed on the substrate and bubbles in liquid crystal are not generated. Applicant submits that, in Kishimoto, the dielectric structures 120 are in periphery zones including the periphery sides PS of the pixel regions P to cover the sides of the electrodes 110 and the black matrix 112 that define the periphery sides PS of the pixel regions P (col. 17, lines 48-51). Thus, the dielectric structures 120 in Kishimoto differ from the dielectric frame of the claimed invention and the bumps in Liu et al. and the protrusions Takeda et al. for multi-domain performance. Accordingly, Kishimoto has no motivation to combine Liu et al. and Takeda et al.. Liu et al. fails to teach the second feature of the claim 1 as

alleged in the Office Action. Takeda et al. discloses that each of the protrusions 20A and 20B is a height of 1 μ m and a cell gap is a height of 3.5 μ m. But, because the protrusions 20A and 20B are formed on both the lower and upper substrates 12 and 13, the sum of heights of the protrusions 20A and 20B is 3 μ m. Thus, Takeda et al. fails to teach the second feature of the claim 1. Therefore, if the teaching of Von Gutfeld et al., Liu et al. and Takeda et al. were combined, Von Gutfeld et al., Liu et al. and Takeda et al. fail to teach the second feature of the claim 1. Accordingly, claims 1, 2, 4, 5, 7, 9, 11-14, and 20 are allowable over the cited references.

The rejection of claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Oh et al. in view of Liu et al., Von Gutfeld et al. and Tanaka et al. is respectfully traversed and reconsideration is requested. Because Tanaka et al. fails to cure the deficient teaching of Oh et al., Liu et al. and Von Gutfeld et al., claim 15 is allowable over the cited references.

The rejection of claims 17-19 under 35 U.S.C. § 103(a) as being unpatentable over Oh et al. in view of Liu et al., Von Gutfeld et al. and Kim et al. is respectfully traversed and reconsideration is requested. Because Kim et al. fails to cure the deficient teaching of Oh et al., Liu et al. and Von Gutfeld et al., claims 17-19 are allowable over the cited references.

Applicant believes the application is in condition for allowance and early, favorable action is respectfully solicited. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. § 1.136, and any additional fees required under 37 C.F.R. § 1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911.

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Please credit any overpayment to deposit Account No. 50-0911.

Dated:

Respectfully submitted,

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